

Notice of Allowability

Application No.

09/742,423

Examiner

Michael Kornakov

Applicant(s)

MATSUNO ET AL.

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/22/2003.
2. ☒ The allowed claim(s) is/are 1 and 3-20.
3. ☒ The drawings filed on 24 July 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____. |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____ | 7 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. A. Yamazaki, esq., on 01/08/2004.

The application has been amended as follows:

Cancel claims 2, 21-23

These claims are cancelled as being non-elected by Applicants.

In claim 1 replace the entire clause after the words "wherein said ozone water includes at least one substance" with the following: - - - added in the amount, sufficient to maintain ozone concentration in said ozone water, wherein the said substance is selected from the group consisting of carbon dioxide and ammonium carbonate- - -

This amendment is made in order to overcome the prior art reference to Degendt et al (US 2002/0088478), which recites the use of acetic acid as an enhancer of ozone in aqueous ozone containing solutions.

In claims 3, 4, 5, 6, 7, 10, 12 and 13 delete the words "or 2" after the words "according to claim 1"

This amendment is made in order to establish proper dependency.

In the Abstract: delete the entire clause after the words "treating the substrate with ozone water and hydrogen water at the same time."

This amendment is made in order to better describe the claimed invention and keep the abstract in narrative form.

Response to Applicants' amendment

2. All previous rejections have been overcome by Applicants' amendment, filed 10/22/2003, in combination with the Examiner's amendment and said rejections are, therefore, withdrawn.

Allowable Claims

3. Claims 1, 3-20 are allowable over the prior art of record.

Reasons for Allowance

4. The following is an examiner's statement of reasons for allowance: The closest prior art of record are Eui-Yeol (U.S. 6,035,871) and Yeol (U.S. 5,983,909).

While teaching a process of removing organic impurities from substrates with the steps, similar to those instantly claimed and providing for the use of pH adjusting agents (alkaline or acidic), mixed into ozone water, the prior art references to US'871 and US'909 taken alone or in combination do not anticipate or suggest fairly the step of introducing carbon dioxide or ammonium carbonate into ozone water in the amount, sufficient to maintain ozone concentration in said ozone water.

While teaching a method for removing organic contaminants from a semiconductor surface, the reference to Degendt et al. does not anticipate or suggest fairly the combination of steps as instantly claimed and does not provide for the use of ozone water with the addition of carbon dioxide or ammonium carbonate.

No other prior art that anticipates or suggests fairly the instant claims has been located as of the date of this office action. Therefore, claims 1, 3-20 are allowed over the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is 571 272 1303. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571 272 1302. The fax phone number for the organization where this application or proceeding is assigned is 703 872 9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 2450.

M. Kornakov
01/09/04

Michael Kornakov
Examiner
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